

We Claim:

5 1. An isolated polynucleotide comprising a nucleotide sequence  
selected from the group consisting of: (a) a nucleotide sequence encoding a  
polypeptide comprising a sequence selected from the group consisting of SEQ ID  
Nos. 2N-1, where N= 1-85; (b) a nucleotide sequence encoding a polypeptide  
10 comprising a sequence selected from the group consisting of SEQ ID Nos. 2N-1,  
where N= 1-85; including substitutions, deletions or insertions; (c) a nucleotide  
sequence encoding a fragment from a polypeptide of (a) or (b); (d) a nucleotide  
sequence comprising a sequence selected from the group consisting of SEQ ID  
Nos. 2N-1, where N= 1-85; (e) a nucleotide sequence having at least 40% identity  
15 with a nucleotide sequence of (a) or (b); (f) a nucleotide sequence having at least  
60% identity with a nucleotide sequence of (c); (g) a nucleotide sequence  
comprising at least 15 consecutive nucleotides of SEQ ID Nos. 2N-1, where N=1-  
85; and (h) a nucleotide sequence that hybridizes to a sequence encoding a  
polypeptide of (a), (b) or (c) under stringent conditions

20 2. The isolated polynucleotide of claim 1, further comprising a  
constitutive promoter operably linked to said nucleotide sequence

25 3. The isolated polynucleotide of claim 1, further comprising an  
inducible promoter operably linked to said nucleotide sequence.

4. The isolated polynucleotide of claim 1, further comprising a tissue-  
active promoter operably linked to said nucleotide sequence.

30 5. An expression vector comprising an isolated polynucleotide of  
claim 1.

6. A host cell comprising an expression vector of claim 5.

7. A transgenic plant comprising an isolated polynucleotide of claim 1.

8. A transgenic plant ectopically expressing an isolated polynucleotide of claim 1.

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9. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of: (a) a sequence selected from SEQ ID Nos. 2(N), where N= 1-85; (b) a sequence selected from SEQ ID Nos. SEQ ID Nos. 2(N), where N= 1-85; including substitutions, deletions or insertions; (c) a  
10 sequence from a fragment from a polypeptide of (a) or (b); (d) a sequence having at least 40% identity with a sequence of (a) or (b); and (e) a sequence having at least 60% identity with a sequence of (a) or (b).

10. A transgenic plant ectopically expressing an isolated polypeptide of  
15 claim 9.

11. A method for screening a molecule to identify a molecule that modifies a plant trait, said method comprising (a) placing the molecule in contact with the plant; and (b) monitoring the effect of the molecule on the expression or  
20 activity of a polypeptide of claim 9 or the expression of a polynucleotide of claim 1.

12. A method for producing a transgenic plant having a modified trait, said method comprising ectopically expressing the isolated polynucleotide of claim  
25 1 and selecting a plant with the modified trait.

13. A method for identifying a sequence homologous to the polynucleotide of claim 1, said method comprising (a) providing a database sequence; (b) aligning and comparing the sequence of the polynucleotide of claim  
30 1 with the database sequence to determine whether the database sequence meets sequence identity criteria relative to the polynucleotide of claim 1; and (c) selecting a database sequence that meets the sequence identity criteria.

14. A polynucleotide sequence identified by the method of claim 13.

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